

**WHAT IS CLAIMED IS:**

1. A composition for lanthionizing keratinous fibers to achieve relaxation of said keratinous fibers comprising:

- (i) at least one hydroxide compound; and
- (ii) at least one oxidizing agent,

wherein said at least one hydroxide compound and said at least one oxidizing agent are present in a combined amount effective to relax said keratinous fibers.

2. A composition according to claim 1, wherein said at least one hydroxide compound is chosen from alkali metal hydroxides, alkaline earth metal hydroxides, transition metal hydroxides, lanthanide metal hydroxides, actinide metal hydroxides, Group III hydroxides, Group IV hydroxides, Group V hydroxides, Group VI hydroxides, organic hydroxides, and compounds comprising at least one hydroxide substituent which is at least partially hydrolyzable.

3. A composition according to claim 2, wherein said at least one hydroxide compound is chosen from sodium hydroxide, lithium hydroxide, and potassium hydroxide.

4. A composition according to claim 3, wherein said at least one hydroxide compound is sodium hydroxide.

5. A composition according to claim 1, wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 2.5% by weight relative to the total weight of said composition.

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6. A composition according to claim 5, wherein said at least one

7. A composition according to claim 6, wherein said at least one

8. A composition according to claim 1, wherein said at least one

9. A composition according to claim 1, wherein said at least one

10. A composition according to claim 9, wherein said at least one

11. A composition according to claim 1, wherein said at least one

12. A composition according to claim 11, wherein said at least one

13. A composition according to claim 1, further comprising at least one

14. A composition according to claim 13, wherein said at least one cation exchange composition is chosen from clays.

15. A composition according to claim 13, wherein said at least one cation exchange composition is chosen from silicates.

16. A composition according to claim 15, wherein said silicates are chosen from analcime, chabazite, gmelinite, harmotome, levynite, mordenite, epistilbite, heulandite, natrolite, stilbite, edingtonite, mesolite, scolecite, thomosonite, brewsterite, faujasite, gismondine, laumontite, phillipsite, and aluminosilicate.

17. A composition according to claim 15, wherein said silicates are chosen from zeolites.

18. A composition according to claim 15, wherein said silicates are chosen from zeolite clays.

19. A composition according to claim 1, further comprising at least one solvent.

20. A composition according to claim 19, wherein said at least one solvent is chosen from DMSO and water.

21. A composition according to claim 1, further comprising at least one complexing agent effective for dissociating the at least one hydroxide compound in a sufficient quantity to effect lanthionization of keratinous fibers.

22. A composition according to claim 21, wherein said at least one complexing agent is chosen from chelating agents, sequestering agents and salts of any of the foregoing.

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23. A composition according to claim 21, wherein said dissociation is

24. A composition according to claim 21, wherein at least one entity

25. A composition according to claim 22, wherein said chelating agents

26. A composition according to claim 22, wherein said sequestering

27. A composition according to claim 26, wherein said hydroxy carboxylic

28. A composition according to claim 22, wherein said at least one

29. A composition according to claim 28, wherein said amino acids are

30. A composition according to claim 22, wherein said at least one

31. A composition according to claim 30, wherein said at least one

37. A composition according to claim 21, wherein said at least one

complexing agent and said at least one hydroxide compound form at least one complexing agent-counter ion complex.

38. A composition according to claim 37, wherein said composition comprises at least two complexing agents.

39. A composition according to claim 1, further comprising at least one additive chosen from dyes, anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, silicones, silicone derivatives, screening agents, preserving agents, proteins, vitamins, polymers, plant oils, mineral oils and synthetic oils.

40. A composition according to claim 1, wherein said composition is in the form of an oil-in-water emulsion, a water-in-oil emulsion, a dispersion, a suspension, a cream, a foam, a gel, a spray, a powder or a liquid.

41. A composition according to claim 1, wherein said keratinous fibers are chosen from hair.

42. A composition according to claim 1, wherein said composition is heat-activated.

43. A composition for lanthionizing keratinous fibers to achieve relaxation of said keratinous fibers comprising:

- (i) at least one hydroxide compound; and
- (ii) at least one oxidizing agent,

wherein said at least one hydroxide compound and said at least one oxidizing agent are present in a combined amount effective to relax said keratinous fibers; and

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further wherein said wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 2% by weight relative to the total weight of said composition.

44. A composition for lanthionizing keratinous fibers to achieve relaxation of said keratinous fibers comprising:

(i) at least one hydroxide compound; and

(ii) at least one oxidizing agent,

wherein said at least one hydroxide compound and said at least one oxidizing agent are present in a combined amount effective to relax said keratinous fibers; and

further wherein said wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 1% by weight relative to the total weight of said composition.

45. A composition for lanthionizing keratinous fibers to achieve relaxation of said keratinous fibers comprising:

(i) at least one hydroxide compound; and

(ii) at least one oxidizing agent,

wherein said at least one hydroxide compound and said at least one oxidizing agent are present in a combined amount effective to relax said keratinous fibers; and

further wherein said wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 0.5% by weight relative to the total weight of said composition.

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46. A method for lanthionizing keratinous fibers to achieve relaxation of said keratinous fibers comprising:

(i) generating hydroxide ions in at least one solvent, wherein said step of generating comprises including at least one hydroxide compound and at least one oxidizing agent in said at least one solvent;

(ii) applying a composition comprising said generated hydroxide ions to keratinous fibers for a sufficient period of time to lanthionize at least one of said keratinous fibers; and

(iii) heating said keratinous fibers,  
wherein said at least one hydroxide compound and said at least one oxidizing agent are present in a combined amount effective to relax said keratinous fibers,

further wherein said composition is applied prior to said heating or during said heating.

47. A method according to claim 46, further comprising shampooing said keratinous fibers subsequent to said heating.

48. A method according to claim 47, further comprising rinsing said keratinous fibers subsequent to said shampooing.

49. A method according to claim 46, further comprising rinsing said keratinous fibers prior to said shampooing.

50. A method according to claim 46, wherein said composition is applied prior to said heating and during said heating.

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51. A method according to claim 46, wherein said at least one hydroxide compound is chosen from alkali metal hydroxides, alkaline earth metal hydroxides, transition metal hydroxides, lanthanide metal hydroxides, actinide metal hydroxides, Group III hydroxides, Group IV hydroxides, Group V hydroxides, Group VI hydroxides, organic hydroxides, and compounds comprising at least one hydroxide substituent which is at least partially hydrolyzable.

52. A method according to claim 51, wherein said at least one hydroxide compound is chosen from sodium hydroxide, lithium hydroxide, and potassium hydroxide.

53. A method according to claim 52, wherein said at least one hydroxide compound is sodium hydroxide.

54. A method according to claim 46, wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 2.5% by weight relative to the total weight of said composition.

55. A method according to claim 54, wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 2% by weight relative to the total weight of said composition.

56. A method according to claim 55, wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 1% by weight relative to the total weight of said composition.

57. A method according to claim 56, wherein said at least one hydroxide compound is present in an amount such that the amount of hydroxide ion ranges from 0.01% to 0.5% by weight relative to the total weight of said composition.

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66. A method according to claim 65, wherein said silicates are chosen from analcime, chabazite, gmelinite, harmotome, levynite, mordenite, epistilbite, heulandite, natrolite, stilbite, edingtonite, mesolite, scolecite, thomosonite, brewsterite, faujasite, gismondine, laumontite, phillipsite, and aluminosilicate.

75. A method according to claim 70, wherein said hydroxy carboxylic acids are chosen from gluconic acid, citric acid and tartaric acid.

83. A method according to claim 69, wherein said at least one

complexing agent is chosen from ethylene diamine tetraacetic acid (EDTA), N-(hydroxyethyl) ethylene diamine triacetic acid, aminotrimethylene phosphonic acid, diethylenetriamine-pentaacetate acid, lauroyl ethylene diamine triacetic acid, nitrilotriacetic acid, iminodisuccinic acid, tartaric acid, citric acid, N-2-hydroxyethyliminodiacetic acid and salts of any of the foregoing.

84. A method according to claim 83, wherein said at least one complexing agent is chosen from sodium EDTA, lithium EDTA, potassium EDTA and guanidine EDTA.

85. A method according to claim 69, wherein said at least one complexing agent and said at least one hydroxide compound form at least one complexing agent-counter ion complex.

86. A method according to claim 85, wherein said composition comprises at least two complexing agents.

87. A method according to claim 46, wherein said composition further comprises at least one additive chosen from dyes, anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, silicones, silicone derivatives, screening agents, preserving agents, proteins, vitamins, plant oils, mineral oils and synthetic oils.

88. A method according to claim 46, wherein said composition is in the form of an oil-in-water emulsion, a water-in-oil emulsion, a dispersion, a suspension, a cream, a foam, a gel, a spray, a powder or a liquid.

89. A method according to claim 46, wherein said keratinous fibers are hair.

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90. A multicompartment kit for lanthionizing keratinous fibers to achieve relaxation of said keratinous fibers comprising:

(a) a first compartment comprising a first composition, and

(b) a second compartment comprising a second composition,

wherein said first composition comprises at least one hydroxide compound;

and

wherein said second composition comprises at least one oxidizing agent.

91. A multicompartment kit according to claim 90, wherein at least one of said first composition and said second composition further comprises at least one cation exchange composition.

92. A multicompartment kit according to claim 90, wherein at least one of said first composition and said second composition further comprises at least one complexing agent effective for dissociating the at least one hydroxide compound in a sufficient quantity to effect lanthionization of keratinous fibers.

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